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Customer No.



Docket No: 3162/0K107

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Jorge MAZZA

Serial No.:

not yet assigned

Art Unit:

not yet assigned

Filed:

Concurrently herewith

Examiner:

not yet assigned

For:

NEW ANIONIC COLORING AGENTS TO DYE LEATHER, PAPER, CARDBOARD AND TEXTILE SUBSTRATES: MIXTURES OF COLORING AGENTS INCLUDING THESE NEW PRODUCTS, AND SUBSTRATES DYED USING THE ABOVE

COLORING AGENTS

Commissioner of Patents 2900 Crystal Drive Arlington, VA. 22202-3513

#### PRELIMINARY AMENDMENT

Sir:

Prior to examination, please amend the above-identified application as follows:

## IN THE CLAIMS:

Please amend claims 1-17 as follows:

1. (Amended) An anionic coloring agent comprising at least one spacer arm bound to said coloring agent.

2. (Amended) The anionic coloring agent of claim 1 having the following formula:

$$C_A - B_E$$

wherein:

C<sub>A</sub> is an anionic coloring agent comprising at least one chromophore group; and

 $\boldsymbol{B}_{\!\scriptscriptstyle E}$  is said spacer-arm, which has the following chemical structure:

wherein:

X is a direct link or a group having the formula -S(O)<sub>s</sub>, wherein s is 0, 1 or 2; -NR<sub>1</sub>-, wherein

 $R_1$  is hydrogen or a  $C_1$ - $C_{10}$  alkyl group;

R is a  $C_1$ - $C_{10}$  straight or branched alkylene group;

Z is a polar group; and

R is an integer equal or higher than 1.

3. (Amended) The anionic coloring agent of claim 2, wherein said chromophore is selected from the group consisting of azo, anthraquinone, formazane, dioxazine, and ftalocianine, eventually metallized.

4. (Amended) The anionic coloring agent of claim 1, wherein said spacer arm has the formula:

wherein:

n is an integer between 1 and 10;

Z is selected from the group consisting of halo, amino, cyano, hydroxyl, carboxyl, carboxamide, and their N alkyl, dialkyl derived from  $C_1$ - $C_{10}$ , and sterified carboxyl.

5. (Amended) The anionic coloring agent of claim 1, wherein said spacer arm has the formula:

wherein:

Z' is hydrogen or is selected from the group consisting of halo, cyano, hydroxyl, carboxyl, carboxamide, and their N alkyl and dialkyl derived from  $C_1$ - $C_{10}$ , sterified carboxyl with  $C_{1^{-}10}$  alkyl, -SR<sup>2</sup>-, where R<sup>2</sup> is hydrogen or  $C_{1-10}$  alkyl;

n is an integer between 1 and 10; and

Y is hydrogen, alkyl or  $C_{1-10}$  hydroxyalkyl.

6. (Amended) The anionic coloring of claim 5, wherein the spacer arm has the structure.

wherein

Y is hydrogen, hydroxyalkyl or C<sub>1-10</sub> alkyl;

n is an integer between 1 and 10; and

 $R_1$  and  $R_2$  are independently hydrogen or  $C_{1-10}$  alkyl.

7. (Amended) The anionic coloring agent of claim 1, wherein said spacer arm has the following structure:

wherein:

Y is hydrogen, hydroxyalkyl or  $C_{1-10}$  alkyl;

X is -COOR<sub>4</sub>, -CONH<sub>2</sub>, -CN or -SO<sub>3</sub>H;

n is an integer between 1 and 10; and

 $\rm R_{3}$  and  $\rm R_{4}$  are independently hydrogen or  $\rm C_{1\text{--}10}$  alkyl.

8. (Amended) The anionic coloring agent of claim 1, wherein said spacer arm has the following structure:

wherein:

Y is hydrogen, hydroxyalkyl or C<sub>1-10</sub> alkyl;

W is selected from the group consisting of -S -SO<sub>3</sub>R<sub>5</sub> and -S-SO<sub>3</sub>R<sub>6</sub>; wherein R<sub>5</sub> and R<sub>6</sub> are independently hydrogen or  $C_{1-10}$  alkyl.

- 9. (Amended) The anionic coloring agent of claim 1, comprising more than one spacer arm.
- 10. (Amended) A coloring composition comprising at least one anionic coloring agent of claim 1.
- 11. (Amended) The coloring composition of claim 10, comprising at least one anionic coloring agent without spacer arms.
- 12. (Amended) A method of dyeing a fiber or fabric selected from the group consisting of cotton, regenerated cellulose, nylon and wool, comprising adding an anionic coloring agent of claim 1 to said fiber or fabric.
- 13. (Amended) A method of dyeing a substrate selected from the group consisting of leather, cardboard and paper, comprising adding an anionic coloring agent of claim 1 to said substrate.

- 14. (Amended) A method of dyeing a fiber or fabric selected from the group consisting of cotton, regenerated cellulose, nylon and wool, comprising adding the coloring composition of claim 10 to said fiber or fabric.
- 15. (Amended) A method of dyeing a substrate selected from the group consisting of leather, cardboard and paper, comprising adding the coloring composition of claim 10 to said substrate.
  - 16. (Amended) A substrate dyed with the anionic coloring agent of claim 1.
  - 17. (Amended) A substrate, dyed with the anionic coloring agent of claim 10.

Please add the following new claims:

- 18. (To follow claim 14) A method of dyeing a fiber or fabric selected from the group consisting of cotton, regenerated cellulose, nylon and wool, comprising adding the coloring composition of claim 11 to said fiber or fabric.
- 19. (To follow claim 15) A method of dyeing a substrate selected from the group consisting of leather, cardboard and paper, comprising adding the coloring composition of claim 11 to said substrate.

20. (To follow claim 17) A substrate, dyed with the anionic coloring agent of claim 11.

### Remarks

Applicants respectfully request entry of the foregoing amendment made to eliminate multiple dependency. No new matter has been added. Favorable action is therefore earnestly solicited.

Respectfully submitted,

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Commissioner of Patents 2900 Crystal Drive Arlington, VA. 22202-3513

### MARKUP FOR PRELIMINARY AMENDMENT OF DECEMBER 18, 2001

Sir:

Prior to examination, please amend the above-identified application as follows:

#### IN THE CLAIMS:

1. (Amended) <u>An anionic</u> [Anionic] coloring <u>agent</u> [agents characterized in that they comprise] <u>comprising</u> at least one spacer arm bound to [the structure of] said coloring [agents] <u>agent</u>.

2. (Amended) The anionic [Anionic] coloring [agents] agent of claim 1 [characterized in that they comprise] having the following formula:

 $C_A$ - $B_E$ 

[Where] wherein:

 $C_A$  is an anionic coloring agent comprising at least [a cromphore] <u>one chromophore</u> group; and  $B_E$  is said spacer-arm, which has the following chemical structure:

-(X - R - Z)

[where] wherein:

X is a direct link or a group having the formula  $-S(O)_s$ , wherein s is 0, 1 or 2;  $-NR_1$ -, wherein  $R_1$  is hydrogen or a  $C_1$ - $C_{10}$  alkyl group;

R is a  $C_1$ - $C_{10}$  straight or branched alkylene group;

Z is a polar group; and

R is an integer equal or higher than 1.

3. (Amended) <u>The anionic</u> [Anionic] coloring [agents according to] <u>agent of</u> claim 2. [characterized in that] wherein said [chromophores are] <u>chromophore is</u> selected from <u>the</u>

group consisting of azo, anthraquinone, formazane, dioxazine, [and/or] and ftalocianine, eventually metallized.

4. (Amended) The anionic [Anionic] coloring [agents according to claims 1 and 2] agent of claim 1, [characterized in that] wherein said spacer arm [corresponds to the] has the formula:

[where] wherein:

n is an integer [bewteen between 1 and 10; [and]

Z [represents a] is selected from the group [selected among] consisting of halo, amino, cyano, hydroxyl, carboxyl, carboxamide, and their N alkyl, dialkyl derived from  $C_1$ - $C_{10}$ , and sterified carboxyl.

5. (Amended) The anionic [Anionic] coloring [agants according to claims 1 and 2] agent of claim 1, [characterized in that] wherein said spacer arm [corresponds to] has the formula:

[Where] wherein:

Z' is hydrogen or <u>is selected from the</u> [a] group <u>consisting of</u> [selected from] halo, cyano, hydroxyl, carboxyl, carboxamide, and their N alkyl and dialkyl derived from  $C_1$ - $C_{10}$ , sterified carboxyl with  $C_{1^-10}$  alkyl, -SR<sup>2</sup>-, where R<sup>2</sup> is hydrogen or  $C_{1-10}$  alkyl; [and]

[N]  $\underline{n}$  is an integer [bewteen]  $\underline{between}$  1 and 10; [anf]  $\underline{and}$ Y [es]  $\underline{is}$  hydrogen, [or an] alkyl [group] or  $C_{1-10}$  [hydroxi]  $\underline{hydroxy}$ alkyl.

6. (Amended) The anionic [Anionic] coloring [agents according to] of claim 5, [characterized in that said] wherein the spacer arm [corresponds to the following] has the structure.

$$-NY - (CH_2)_n - NR_1R_2$$
 [- NY - (CH<sub>2</sub>)<sub>n</sub> - NR<sub>1</sub>,R<sub>2</sub>]

[Where] wherein:

Y [represents] is hydrogen, [hydroxi]  $\underline{hydroxy}$ alkyl or [a group of]  $C_{1-10}$  alkyl;  $\underline{n}[N]$  is an integer between 1 and 10; and

 $R_1$  and  $R_2$  [either] are independently [represent] hydrogen or [a]  $C_{1-10}$  alkyl [group].

7. (Amended) The anionic [Anionic] coloring [agents according to claims 1 and 2] agent of claim 1, [characterized in that the] wherein said spacer [arms comprise] arm has the following structure:

[Where] wherein:

Y [represents] is hydrogen, [hydroxi] hydroxyalkyl or [a] C<sub>1-10</sub> alkyl [group];

X is [a] -COOR<sub>4</sub>, -CONH<sub>2</sub>, -CN or -SO<sub>3</sub>H [group];

[N]  $\underline{n}$  is an integer between 1 and 10; and

 $R_3$  and  $R_4$  [either] are independently [represent] hydrogen or [a]  $C_{1-10}$  alkyl [group].

8. (Amended) The anionic coloring [agents according to claims 1 and 2] agent of claim 1, [characterized] wherein [in that the] said spacer [arms comprise the] arm has the following structure:

[Where] wherein:

Y [represents] is hydrogen, [hydroxi] hydroxyalkyl or [a] C<sub>1-10</sub> alkyl [group];

W is [a group] selected from the group consisting of -S -SO $_3$ R $_5$  and -S-SO $_3$ R $_6$ ; [where] wherein R $_5$  and R $_6$  [either] are independently [represent] hydrogen or [a] C $_{1-10}$  alkyl [group].

- 9. (Amended) The anionic [Anionic] coloring [agents] agent [according to any of the claims above, characterized in that they comprise] of claim 1, comprising more than one spacer arm.
- 10. (Amended) [Coloring compositions characterized in that they comprise] A coloring composition comprising at least one anionic coloring agent of claim 1 [according to any of the claims above].
- 11. (Amended) [Coloring compositions according to claim 10, characterized in that they comprise, moreover] The coloring composition of claim 10, comprising at least one anionic coloring [agents] agent without [said] spacer arms.

12. (Amended) A method of dyeing a fiber or fabric selected from the group consisting of cotton, regenerated cellulose, nylon and wool, comprising adding an anionic coloring agent of claim 1 to said fiber or fabric [Use of anionic coloring agents according to claims 1 to 9, characterized in that they are used for the dyeing of substrates selected from fibers or fabrics including cotton, regenerated cellulose, nylon and for wool].

13. (Amended) A method of dyeing a substrate selected from the group consisting of leather, cardboard and paper, comprising adding an anionic coloring agent of claim 1 to said substrate [Use of anionic coloring agents according to claims 1 to 9, characterized in that they are used for the dyeing of substrates selected from leather, cardboard or paper].

14. (Amended) A method of dyeing a fiber or fabric selected from the group consisting of cotton, regenerated cellulose, nylon and wool, comprising adding the coloring compositions of claim 10 to said fiber or fabric [Use of coloring compositions according to claims 10 to 11, characterized in that they are used for the dyeing of substrates selected from fibers or fabrics including cotton, regenerated cellulose, nylon and/or wool].

15. (Amended) A method of dyeing a substrate selected from the group consisting of leather, cardboard and paper, comprising adding the coloring composition of claim 10 to said substrate [Use of coloring compositions according to claims 10 to 11

characterized in that they are used for the dyeing of substrates selected from leather, cardboard or paper].

- 16. (Amended) A substrate dyed with the anionic coloring agent of claim 1 [Substrates characterized in that they have been dyed according to claims 1 to 9].
- 17. (Amended) A substrate, dyed with the anionic coloring agent of claim 10 [Substrates characterized in that they have been dyed using the coloring compositions according to claims 10 and 11].
- 18. A method of dyeing a fiber or fabric selected from the group consisting of cotton, regenerated cellulose, nylon and wool, comprising adding the coloring composition of claim 11 to said fiber or fabric.
- 19. A method of dyeing a substrate selected from the group consisting of leather, cardboard and paper, comprising adding the coloring composition of claim 11 to said substrate.
  - 20. A substrate, dyed with the anionic coloring agent of claim 11.